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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,455	09/26/2005	Paolo Gianola	09952.0002	4643

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EXAMINER	
HE, AMY	

ART UNIT	PAPER NUMBER
2831	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,455	GIANOLA ET AL.	
	Examiner	Art Unit	
	AMY HE	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 09, 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 27-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 27-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 5, 9-12 and 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fu (U. S. Patent No. 6, 834,182) in view of EP 1233273 and Rotta et al. (U. S. Patent No. 6, 954,620).

As for claims 1, 9 and 10, Fu discloses a device (mobile station 10, including the transmitter circuit 20 as shown in Figures 2, 7 and 9; abstract; col. 5, lines 3-25) for monitoring the electromagnetic field emitted by an antenna (24), the device comprising:

a measurement arrangement (the combination of ACPR detector 20B and 20C as shown in Figures 7 and 9; or the ACPR detector 26 in Figure 1)for measuring at least one RF power signal input to the antenna (24) in at least one frequency band, wherein said at least one RF power signal is indicative of the electromagnetic field strength emitted by the antenna (i.e. the RF power transmitted by the mobile station through antenna 24, see claim 1) over a given area (coverage area of the transmitter 20), and

a communication module (the combination of 20 and 22).

Fu does not specifically disclose that the communication module transmit said at least one RF power signal measurement to a remote processing facility, wherein the

communication module is configured to control the at least one RF power signal input to the antenna, in response to receiving a command for controlling the at least one RF power signal input to the antenna; and a control module for controlling the at least one RF power signal input to the antenna.

EP 1233273 discloses a control module (70 in Fig. 2) for controlling a electromagnetic fields monitoring device ([0028], [0031]); and communication module (90) for transmitting a RF power signal measurement to a remote processing facility (remote station WS), and controlling a RF power signal measurement in response to receiving a command from the remote processing facility (remote station WS), for achieving a high degree of flexibility in performing electromagnetic field strength monitoring (see [0025]-[0027]).

Rotta et al. discloses that it is conventional in the art to detect and control the RF power signal input to an antenna, so that the power level of the antenna maintains within desired power levels to avoid causing interference with other systems (abstract; Fig. 2; col. 2, lines 35-43).

A person of ordinary skill in the art at the time the invention was made would find it obvious to modify Fu to disclose a control module, and a communication module for transmitting the RF power signal measurement to a remote processing facility, and to control the RF power signal measurement (i.e. frequency range selection or power level threshold selection) in response to receiving a command from the remote processing facility, as taught by EP 1233273, for the purpose of achieving a high degree of

flexibility of remotely monitoring the RF power signal, and/or further processing/analyzing the RF power signal as desired(see [0025]-[0027]).

Furthermore, the person of ordinary skill in the art would also find it obvious to modify Fu in view of EP 1233273 to disclose controlling the RF power signal input to the antenna in response to the detected power level exceeding a predetermined threshold, as taught by Rotta et al., for the purpose of maintaining the power level of the antenna within desired power levels to avoid causing interference with other systems (abstract; Fig. 2; col. 2, lines 35-43).

As for claim 2, Fu discloses the device of claim 1, wherein said measurement arrangement comprises a sampling circuit (ADC 18A as shown in Figures 7 and 9) responsive to the RF power signal input to the antenna (24), the sampling circuit generating a sequence of samples indicative of the electromagnetic field strength over a given time interval (i.e., the N samples sampled by ADC 18A, see col. 6, lines 6-8 and lines 51-54).

As for claim 3, Fu discloses the device of claim I, wherein said measurement arrangement comprises an average calculating circuit (18G in Figure 9, col. 6, line 51) to generate signals indicative of the average electromagnetic field strength over a given time interval (col. 6, lines 51-54).

As for claim 5, Fu discloses the device of claim 1, wherein the device further comprises a memory (MEM 13 as shown in Figure 1) for storing data representative of said at least one RF power signal.

As for claims 11 and 12, Fu discloses a transmission apparatus/ an antenna comprising a device (mobile station 10 in Figure 1, including the transmitter circuit 20 as shown in Figures 2, 7 and 9; abstract; col. 5, lines 3-25) for monitoring the electromagnetic field emitted by the antenna, the transmission apparatus emitting at least one RF power signal to the antenna, the device comprising:

a measurement arrangement (the combination of ACPR detector 20B and 20C as shown in Figures 7 and 9; or the ACPR detector 26 in Figure 1) for measuring at least one RF power signal input to the antenna in at least one frequency band (frequency band of the transmitter 20), wherein said at least one RF power signal is indicative of the electromagnetic field strength emitted by the antenna(i.e. the RF power transmitted by the mobile station through antenna 24, see claim 1) over a given area (coverage area of the transmitter 20), and

a communication module (the combination of 20 and 22).

Fu does not specifically disclose that the communication module transmit said at least one RF power signal measurement to a remote processing facility, wherein the communication module is configured to control the at least one RF power signal input to the antenna, in response to receiving a command for controlling the at least one RF power signal input to the antenna; and a control module for controlling the at least one RF power signal input to the antenna.

EP 1233273 discloses a control module (70 in Fig. 2) for controlling a electromagnetic fields monitoring device ([0028], [0031]); and communication module (90) for transmitting a RF power signal measurement to a remote processing facility

(remote station WS), and controlling a RF power signal measurement in response to receiving a command from the remote processing facility (remote station WS), for achieving a high degree of flexibility in performing electromagnetic field strength monitoring (see [0025]-[0027]).

Rotta et al. discloses that it is conventional in the art to detect and control the RF power signal input to an antenna, so that the power level of the antenna maintains within desired power levels to avoid causing interference with other systems (abstract; Fig. 2; col. 2, lines 35-43).

A person of ordinary skill in the art at the time the invention was made would find it obvious to modify Fu to disclose a control module, and a communication module for transmitting the RF power signal measurement to a remote processing facility, and to control the RF power signal measurement (i.e. frequency range selection or power level threshold selection) in response to receiving a command from the remote processing facility, as taught by EP 1233273, for the purpose of achieving a high degree of flexibility of remotely monitoring the RF power signal, and/or further processing/analyzing the RF power signal as desired(see [0025]-[0027]).

Furthermore, the person of ordinary skill in the art would also find it obvious to modify Fu in view of EP 1233273 to disclose controlling the RF power signal input to the antenna in response to the detected power level exceeding a predetermined threshold, as taught by Rotta et al., for the purpose of maintaining the power level of the antenna within desired power levels to avoid causing interference with other systems (abstract; Fig. 2; col. 2, lines 35-43).

As for claims 27-29, EP 1233273 discloses that the communication module transmits the RF power signal to the remote processing facility using a wireless communication protocol ([0025]). A person of ordinary skill in the art at the time the invention was made would find it obvious to modify Fu to disclose transmitting the RF power signal measurement to a remote processing facility using a wireless communication protocol, as taught by EP 1233273, for the purpose of achieving a high degree of flexibility of remotely monitoring the RF power signal, and/or further processing/analyzing the RF power signal as desired (see [0025]-[0027]).

As for claims 30-32, the antenna of Fu (24) can be positioned at a fixed location.

As for claims 33-35, Fu discloses that the measurement arrangement measures at least one RF power signal input to a plurality of antennas (the plurality of antenna 24 as shown in MS#1 and MS#2 in Figure 1) positioned at the fixed location.

2. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fu (U. S. Patent No. 6, 834,182) in view of EP 1233273 and Rotta et al. (U. S. Patent No. 6, 954,620), and further in view of Quinn et al. (U. S. Patent No. 5, 756,967).

As for claims 4 and 6, Fu in view of EP 1233273 and Rotta et al. discloses the device of claim 2, characterized in that:

said sampling circuit (ADC 18A as shown in Figures 7 and 9) generates a first set of samples (i.e., the set of N samples sampled by ADC 18A, see col. 6, lines 6-8 and lines 51-54) indicative of the electromagnetic field strength over a given time interval,

said measuring arrangement comprises an average calculating circuit (18G in Figure 9, col. 6, line 51) to generate a signal (Pav in Figure 9) indicative of the average electromagnetic field strength over a given time interval;

a memory (MEM 13 as shown in Figure 1) for storing data representative of said at least one RF power signal.

Still referring to claims 4 and 6, Fu in view of EP 1233273 and Rotta et al. does not specifically disclose that the average calculating circuit is configured for averaging subsets of said first set of samples to generate a second set of averaged samples, said second set of averaged samples comprising a number of samples that is smaller than the number of samples comprised in said first set of samples, and said memory store at least said second set of samples.

Quinn et al. discloses averaging subsets of a first set of N samples to generate a second set of averaged samples (e.g., 10 samples) that is smaller than the N number of samples comprised in the first set of samples, for the purpose of calculating the standard deviation for the subsets of samples (col. 4, lines 32-40).

A person of ordinary skill in the art would find it obvious at the time the invention was made to further modify the average calculating circuit of Fu to disclose averaging subsets of the set of N samples to generate a second set of averaged samples, said second set of averaged samples comprising a number of samples that is smaller than the number of samples comprised in said first set of samples, so that the memory stores the second set of samples, as taught by Quinn et al., for the purpose of calculating the

standard deviation of the subsets of samples for checking the accuracy of the first set of N samples obtained(Quinn et al., col. 4, lines 32-40).

3. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fu (U. S. Patent No. 6, 834,182) in view of EP 1233273 and Rotta et al. (U. S. Patent No. 6, 954,620) , and further in view of Dent et al. (U. S. Patent No. 6, 961,368).

As for claims 7 and 8, Fu in view of EP 1233273 and Rotta et al. discloses the device of claim 1. Fu in view of EP 1233273 and Rotta et al. does not specifically disclose that said measurement arrangement comprises a plurality of measuring channel, each measuring channel for measuring RF power signals input to said antenna in a respective frequency band; and the device further comprises at least one switch for selectively feeding towards said communication module the output signal of any of said measuring channels, whereby RF power signals respectively indicative of electromagnetic field strengths emitted by said antenna for each of said frequency bands are adapted to be transmitted from the device.

Dent et al. discloses (in Figure 5) using a plurality of measuring channels (see the plurality of transmit band channels 80a-80n), each measuring channel is selectively connected to an antenna (46); and at least one switch (switch 76; or 70) for selectively feeding the output signal of any of said measuring channels, for the purpose of adjust the impedance of the antenna to provide impedance matching for a selected frequency band to avoid interference or signal loss (col. 8, lines 42-59).

A person of ordinary skill in the art would find it obvious at the time the invention was made to further modify the measurement arrangement of Fu to disclose a plurality of measuring channel; and to use at least one switch for selectively feeding towards said communication module the output signal of any of said measuring channels, as taught by Dent et al., to measure the RF power signal input to said antenna in a respective frequency band, and whereby the RF power signals respectively indicative of electromagnetic field strengths emitted by said antenna for each of said frequency bands, for the purpose of matching the antenna to a selected frequency band so as to avoid interference or signal loss(col. 7, lines 37-43; col. 8, lines 42-59).

Response to Arguments

4. Applicant's arguments with respect to claims 1-12 and 27-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HE whose telephone number is (571)272-2230. The examiner can normally be reached on 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amy He/

Examiner, Art Unit 2831